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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/574,240

Applicant(s)

FUCHS ET AL.

Examiner

EMMANUEL MAGLO

Art Unit

2472

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 24 May 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8, 10-27, 33-37, 41-43, 45, 48, 51, 52, 55-60, 62, 66-73, 79-82, 88, 89 and 91-99 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 62-73 is/are allowed.
- 6) ☒ Claim(s) 1-8, 10-27, 33-37, 41-43, 45, 48, 51-52, 55-60, 62, 66-73, 79-82, 88-89 and 91-99 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

This Office Action is responsive to the amendment filed on 05/24/2010.

Claims 1, 3 and 89 have been amended.

Claim 90 has been canceled.

Claims 1-8, 10-27, 33-37, 41-43, 45, 48, 51-52, 55-60, 62, 66-73, 79-82, 88-89 and 91-99 are pending in the application.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

1. Claims 1-8, 10-27, 33-36, 88-98 rejected under 35 U.S.C. 103(a) as being unpatentable over Yaport et al. (US 2002/0178221 A1), hereinafter Yaport in view of Cai et al. (US 2005/0030966 A1), hereinafter referred to as Cai.

Regarding claim 1, Yaport discloses *a method of multicasting a data file*, (see title, abstract and fig.2), *comprising*:

transmitting a notification on an upcoming multicast transmission to a plurality of receivers designated to receive the multicast transmission, (transmission: distribution for multicast data: [0033]-[0047], for notification, applicable to users of cellular phones, [0089], [0090]),

transmitting a data file, (data is transmitted to the client 104), *from a data server*, ([0033], [0036], [0037]: server 100), *on the one or more multicast channels*, (multicast data transmission means such as a router 102), *without the data server receiving acknowledgements from the receivers on whether they received the notification*, ([0035], [0042], [0081], [0088]: data transmission without client-server sessions and acknowledgement)

determining, by the data server, at least one of the plurality of the receivers that received at least a portion of the data file, (the information is transmitted by portions, known as protocol data units: [0042] for delivery of small portions).

Yaport does not explicitly disclose the steps of:

determining, by the data server, receivers designated to receive the multicast transmission that did not receive at least a portion of the data file

attempting, by the data server, to deliver the data file to the determined receivers

Cai teaches Multimedia Broadcast Multicast Service (MBMS) service where one use of MBMS services may be to broadcast an event that includes multiple communication sessions; With reference to fig. 3 and [0034], Cai teaches sending service announcement to subscribers MS 102-104 that subscribes to an MBMS service provided by communication system 100 participates in

an MBMS broadcast of an event. Cai further teaches, [0035], that when the MS does not desire to subscribe to the event, the MS does not respond to the announcement, other than, perhaps, to acknowledge receipt of the announcement. Thus as required Cai teaches that some of the subscribers may not have received the service announcement from the server 118. In addition Cai teaches, fig. 4A step 424, determining whether a second set of data (or portion of data) is received by the subscriber), [0048], [0052], that the MS has not previously received. Cai further discloses an attempt to deliver the data to the MS; for, [0054], by providing a Session Description in the sets of data packets conveyed to the MSs 102-104 associated with subscribers to the MBMS service and in an MBMS notification conveyed to the MSs, communication system 100 permits the MSs to determine whether to receive re-data broadcasts by the MBMS service

It would have been obvious to a person of ordinary skill at the time the invention was made to implement Yaport with the teaching of Cai so that clients can subscribe to a particular or selected multicast group at any time and missing data or replays of data to subscribers is provided.

Regarding claim 2, Yaport discloses *transmitting the notification comprises transmitting on a multicast or broadcast channel*, [0031]

Regarding claim 3, Yaport discloses *transmitting the notification comprises transmitting a unicast notification to each of the receivers on the designated receivers*, ([0020]: fig. 1 is a very schematic representation of an existing system for unicast connection)

Regarding claim 4, Yaport discloses *transmitting the notification comprises transmitting substantially only to designated receivers*, (by sending multicast data to members of the multicast group: the users who agree with the service provider or operator on the conditions

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regarding the provision of the multicast service and who indicate willingness or readiness to receive the multicast service are the designated receivers, [0040]).

Regarding claim 5, Yaport discloses *transmitting the notification comprises transmitting a message open also to non-designated receivers*, (the multicast data source is the server 100 (figs. 6-9) assuring Multimedia Broadcast Multicast Service (MBMS); thus in the broadcast mode the data is transmitted to all users in one or more broadcast areas, (this includes also *non-designated receivers*).

Regarding claim 6, Yaport discloses *the notification indicates the one or more channels on which the multicast transmission will be provided*, ([0090] the immediate notification indicates that one client may have capability of receiving the selected information in parallel mode but via several different speed channels simultaneously).

Regarding claim 7, Yaport discloses *tuning to the multicast channel by at least one of the receivers comprises determining by each receiver that receives the notification whether to tune onto the one or more multicast channels*, ([0090])

Regarding claim 8, Yaport discloses *determining by each receiver that receives the notification whether to tune onto the one or more multicast channels comprises determining, from the notification, a group to which the upcoming multicast transmission belongs and determining whether to tune onto the one or more multicast channels according to the determined group*, (note *group* can vary depending on the nature of the service, any client can subscribe to a particular multicast group for receiving the data; for example reference numeral 44 is the Internet, and 42-1, 42-2, 42-3 are clients of group 42; 40-1, 40-2 are clients of group 40, etc.).

Regarding claim 10, Yaport discloses *determining by each receiver that receives the notification*

whether to tune onto the one or more multicast channels comprises determining based on input received from a user responsive to the notification, ([0063]: the client 104-1 receives the randomly selected initial PDU in response to the request R1, as "On Demand" attempt to transport the program or show from a central repository (server) to the user (client) in response to his/her request. To initiate the request, the user selects from a list of candidate programs and requests that the system deliver the selected program.).

Regarding claim 11, *the receivers do not transmit acknowledgements of reception of the notification, at all*, (Yaport discloses, [0017], [0081], [0088]: connection is confirmed by acknowledgement, and the data is transmitted to the client 26-1 via the established connection;

Regarding claim 12, Yaport does not explicitly disclose that *the receivers cannot transmit uplink messages to the data server, without stopping to listen to the one or more multicast channels*. Cai discloses [0028] uplink 135 that includes multiple communication channels, comprising [0031], one or more of multiple time slots in a same frequency bandwidth.

Therefore, it would have been obvious to a person of ordinary skill at the time the invention was made to implement Yaport with the teaching of Cai so that receivers can particularly select one or more multicast group.

Regarding claim 13, *attempting to deliver the data file comprises delivering the data file in a unicast transmission to each of the determined receivers*.

Yaport discloses data distribution over the channels of one of the channel groups, e.g., 130, so as to transfer to clients of a particular group of multicast groups, [0031] for, a plurality of individual sessions occurs between individual clients and the server(s) consisting of unicast transmission: [0014], [0016], [0020].

Regarding claim 14, *attempting to deliver the data file comprises delivering the data file in a multicast transmission to a plurality of the determined receivers*, (by sending multicast data to members of the multicast group: the users who agree with the service provider or operator on the conditions regarding the provision of the multicast service and who indicate willingness or readiness to receive the multicast service are the designated receivers).

Regarding claim 15, *attempting to deliver the data file comprises providing a notification message inviting the receivers to download the transmission on a unicast connection, to the determined receivers*.

Yaport discloses data distribution over the channels of one of the channel groups, e.g., 130, so as to transfer to clients of a particular group of multicast groups, [0031] for, a plurality of individual sessions occurs between individual clients and the server(s) consisting of unicast transmission: [0014], [0016], and [0020].

Regarding claim 16, *at least 80% of the designated receivers establish only a single unicast connection related to receiving the data file*.

Yaport discloses data distribution over the channels of one of the channel groups, e.g., 130, so as to transfer to clients of a particular group of multicast groups, [0031] for, a plurality of individual sessions occurs between individual clients and the server(s) consisting of unicast transmission: [0014], [0016], [0020].

Regarding claim 17, *substantially all of the designated receivers establish only a single unicast connection related to receiving the data file*.

Yaport discloses data distribution over the channels of one of the channel groups, e.g., 130, so as to transfer to clients of a particular group of multicast groups, [0031] for, a plurality of individual

sessions occurs between individual clients and the server(s) consisting of unicast transmission: [0014], [0016], [0020].

Regarding claim 18, *all of the designated receivers establish up to two single unicast connections related to receiving the data file.*

Yaport discloses data distribution over the channels of one of the channel groups, e.g., 130, so as to transfer to clients of a particular group of multicast groups, [0031] for, a plurality of individual sessions occurs between individual clients and the server(s) consisting of unicast transmission: [0014], [0016], [0020].

Regarding claim 19, Yaport does not explicitly disclose *at least a portion of the data file is encrypted, requiring one or more decryption keys identified in the transmitted data file.*

Cai discloses [0020], [0030], [0036], [0050] a keypad that includes multiple keys via which a user of the MS may input an instruction to the MS. Therefore, it would have been obvious to a person of ordinary skill at the time the invention was made to implement Yaport with the teaching of Cai so as to conveys a response to server 118 indicating a desire of a user of the MS to subscribe to the event.

Regarding claim 20, Yaport does not explicitly disclose *the receivers request the one or more keys after receiving the data file.*

Cai discloses [0020], [0030], [0036], [0050] a keypad that includes multiple keys via which a user of the MS may input an instruction to the MS. Therefore, it would have been obvious to a person of ordinary skill at the time the invention was made to implement Yaport with the teaching of Cai so as to conveys a response to server 118 indicating a desire of a user of the MS to subscribe to the event.

Regarding claim 21, Yaport does not explicitly disclose *at least one of the receivers requests the one or more keys*,

Cai discloses a keypad that includes multiple keys [0020], [0030], [0036], [0050], that the user may select or a key of a keypad that a user may depress to generate a response.

Therefore, it would have been obvious to a person of ordinary skill at the time the invention was made to implement Yaport with the teaching of Cai so as to convey a response to server 118 indicating a desire of a user of the MS to subscribe to the event.

Regarding claim 22, Yaport does not explicitly disclose *the receivers request the one or more keys after determining that they received sufficient data to allow reconstruction of the data file*, Cai, [0050], discloses that the retrieved message may instruct the user to select one key of a keypad if the user's response is affirmative and to select another key of the keypad if the user's response is negative; therefore, the retrieved message is thus displayed by processor 206 and the message is retrieved (reconstructed) on the display screen of user interface 210.

Therefore, it would have been obvious to a person of ordinary skill at the time the invention was made to implement Yaport with the teaching of Cai so as to convey a response to server 118 indicating a desire of a user of the MS to subscribe to the event.

Regarding claim 23, Yaport discloses the claimed invention except that *the keys are received on a single unicast connection along with any supplementary data required, not received during the multicast transmission*.

Yaport discloses the supplementary data reception, (PDUC1, PDUC2: they are intended for improving reliability of data transmission, [0045]-[0046]; data distribution over the channels of one of the channel groups, e.g., 130, so as to transfer to clients of a particular group of multicast

groups, [0031] for, a plurality of individual sessions occurs between individual clients and the server(s) consisting of unicast transmission: [0014], [0016], [0020].

Regarding claim 24, Yaport does not explicitly disclose the steps of *receiving acknowledgements from receivers that received the notification or at least a portion of the data file, after transmitting the data file, wherein determining receivers designated that did not receive at least a portion of the data file is performed by determining receivers from which acknowledgments were not received.*

Cai teaches Multimedia Broadcast Multicast Service (MBMS) service where one use of MBMS services may be to broadcast an event that includes multiple communication sessions, that is to transmit portion of the data for providing missing data or replays of data to subscribers. Cai teaches, fig. 4A step 424, determining whether a second set of data (or portion of data) is received by the subscriber), [0048], [0052], that the MS has not previously received. Cai further discloses an attempt to deliver the data to the MS; for, [0054], by providing a Session Description in the sets of data packets conveyed to the MSs 102-104 associated with subscribers to the MBMS service and in an MBMS notification conveyed to the MSs, communication system 100 permits the MSs to determine whether to receive re-data broadcasts by the MBMS service

It would have been obvious to a person of ordinary skill at the time the invention was made to implement Yaport with the teaching of Cai so that clients can subscribe to a particular or selected multicast group at any time and missing data or replays of data to subscribers is provided.

Regarding claim 25, Yaport does not explicitly disclose *receiving the acknowledgements comprises receiving a request for decryption keys*.

Cai discloses, with reference to fig. 3 step 308 and [0035], that a MS responds to server 118 to service announcement (acknowledging desire to subscribe), and, [0036], included in the response is the mobile ID uniquely associated with the MS, allowing server 118 to determine the source of the response. Therefore, [0037]-[0038], server 118 produces identifier (ID) enabling the subscribers to view the event.

Therefore, it would have been obvious to a person of ordinary skill at the time the invention was made to implement Yaport with the teaching of Cai for subscribers to request decryption key to purchases desired multimedia program or software that are of interest to them.

Regarding claim 26, *receiving the acknowledgements comprises receiving a request for supplementary data not received during the multicast transmission*.

Yaport discloses receiving multicast data in the form of protocol data units PDU1, PDU2, PDU3, PDU4, so that if any informational PDU such as PDUC1, PDUC2 . . . is lost during the transmission, the control protocol data units of all data segments will allow to restore the missing data, [0046].

Regarding claims 27, *receiving the acknowledgements comprises receiving over a different network than the network on which the data file was multicast*.

Yaport discloses, [0017], data sessions are occurring between clients and the servers with confirmation of data reception (acknowledgment) so that an established connection when failed,

another connection is established thus through different network for, [0089]: for example, the wide area network is not necessary is the Internet and may be any other wide area network.

Regarding claim 33, *attempting to deliver the data file to the determined receivers comprises delivering on a different network than the network on which the data file was multicast.*

Cai teaches, fig. 4A step 424, determining whether a second set of data (or portion of data) is received by the subscriber), [0048], [0052], that the MS has not previously received. Cai further discloses an attempt to deliver the data to the MS; for, [0054], by providing a Session Description in the sets of data packets conveyed to the MSs 102-104 associated with subscribers to the MBMS service and in an MBMS notification conveyed to the MSs, communication system 100 permits the MSs to determine whether to receive re-data broadcasts by the MBMS service

It would have been obvious to a person of ordinary skill at the time the invention was made to implement Yaport with the teaching of Cai so that clients can subscribe to a particular or selected multicast group at any time and missing data or replays of data to subscribers is provided.

Regarding claim 34, *the notification indicates a plurality of categories to which the data file relates and the plurality of receivers comprises receivers designated to receive data belonging to different ones of the plurality of categories*, (Yaport discloses capability of receiving the selected information or notification in parallel mode but via several different speed channels simultaneously, [0090]: this indicates the plurality of categories relates such as text, audio, video, and interlaced computer programs; [0005])

Regarding claim 35, *transmitting the data file comprises transmitting a plurality of sub-files in a plurality of separate transmission sessions*, ([0035]: file is divided into data segments, the data segments are distributed between data transmission units 114 and 116: [0037])

Regarding claim 36, *transmitting the data file comprises transmitting a plurality sub-files on a plurality of different channels*.

Yaport discloses the data segments are distributed between data transmission units 114 and 116: [0037]).

Regarding claim 88, Yaport discloses a data server, (figs. 6-9 server 100), comprising:

an input interface for receiving files to be multicast, ([0033]: as shown in this drawing, the system of the invention, as an existing system of FIG. 2, consists of a server 100, a multicast data transmission means such as a router 102, groups of clients 104-1,104-2,104-3 . . . 104-n with respective routers 106-1,106-2,106-3, . . . 106-n and the Internet 107 located between the routers of the groups of clients 104-1,104-1,104-3 . . . 104-n and the router 102);

an output interface for providing signals for transmission to receivers, ([0033]),

Yaport discloses a data transmission server 100 for multicast data transmission, (fig. 2), [0031], [0032], [0035], to recipients without acknowledgment, thus [0035], [0047]: the multicast distribution does not need confirmation: the server 100 and the method of multicast data transmission without client-server sessions and acknowledgement). In addition Yaport teaches that information is transmitted by portions, known as protocol data units, [0044]. In addition, [0046], the control protocol data units of all data segments will allow to restore the missing data (portion of the data or PDU such as PDUC1, PDUC2) lost during the transmission.

Yaport does not disclose an *input interface, an output interface, and a controller* as required by the claim.

Cai discloses a server 118 coupled to a RAN controller 114 via a support node receives a first set of MBMS data from an MBMS content provider, [0020],

a controller ([0040]: fig. 1, the Radio Access Network further comprises Radio Network Controllers (RNC) 114), *adapted to generate a notification on an upcoming multicast transmission*, (a multicast service notification is transmitted to mobile stations, thereby informing members of the multicast group of an upcoming multicast sessions), *responsive to a received file, to provide the notification through the output interface for transmission and to provide the received file for transmission*, (notifying the mobile stations of incoming multicast data), *without receiving acknowledgements from the receivers on whether they received the notification, to determine receivers designated to receive the multicast transmission that did not receive at least a portion of the data file and to attempt to deliver the data file to the determined receivers*.

Therefore, it would have been obvious to a person of ordinary skill at the time the invention was made to implement Yaport with the teaching of Cai so that clients can subscribe to a particular or selected multicast group at any time.

Regarding claim 89, Yaport describes *a mobile station*, ([0089]: users of cellular phones: not shown) *comprising*:

a receiver, and

a processor adapted to tune the receiver to receive data on a plurality of multicast channels and to combine the data received on the plurality of channels into a single multimedia file,

Yaport however does not disclose a receiver and a processor as required by the claim.

Cai discloses a mobile station shown in fig. 1 and further in a block diagram of fig. 2, comprising a receiver 202, and a processor 206. Furthermore, Cai teaches that the processor receives a plural sets of MBMS data, [0023]. The system assures a transmission (or rebroadcast of a Multimedia Broadcast Multicast Service (MBMS) service to the subscribers).

Therefore, it would have been obvious to a person of ordinary skill at the time the invention was made to implement Yaport with Cai, to allow data to be transmitted from a single source point to multiple endpoints.

Regarding claim 90, Yaport discloses *the data received on the plurality of channels*, ([0043], and fig. 4), *comprises different multimedia types on different channels*,

Regarding claim 91, *determining the receivers that did not receive at least a portion of the data file comprises determining receivers that did not receive the data file at all*.

Yaport teaches the claimed invention except explicitly determining the receivers that did not receive at least a portion of the data file comprises determining receivers that did not receive the data file at all.

Cai teaches Multimedia Broadcast Multicast Service (MBMS) service where one use of MBMS services may be to broadcast an event that includes multiple communication sessions, that is to transmit portion of the data for providing missing data or replays of data to subscribers. Cai

teaches, fig. 4A step 424, determining whether a second set of data (or portion of data) is received by the subscriber), [0048], [0052], that the MS has not previously received. Cai further discloses an attempt to deliver the data to the MS; for, [0054], by providing a Session Description in the sets of data packets conveyed to the MSs 102-104 associated with subscribers to the MBMS service and in an MBMS notification conveyed to the MSs, communication system 100 permits the MSs to determine whether to receive re-data broadcasts by the MBMS service.

It would have been obvious to a person of ordinary skill at the time the invention was made to implement Yaport with the teaching of Cai so that clients can subscribe to a particular or selected multicast group at any time and missing data or replays of data to subscribers is provided.

Regarding claim 92, *transmitting a data file on the one or more multicast channels comprises transmitting the file data a plurality of times*, (Yaport teaches [0037]: data or information is divided into a plurality of data segments allowing for a plurality of individual sessions occurring between individual clients and the server(s)).

Regarding claim 94, Yaport teaches *providing the notification message comprises sending a message to a mail-box of the mobile station*, (two-way data communication between the browsing user, who has a specific electronic address or destination, and the web page, which also has a specific electronic destination: [006])

Regarding claim 95, Yaport teaches the claimed invention except explicitly *the notification message comprises providing in an SMS message*.

Cai discloses, [0037], [0037] that the service announcement may be sent in any over-the-air format, such as via a broadcast over paging channel 131, via a short message service (SMS), or

via a multicast. It would have been obvious to a person of ordinary skill at the time the invention was made to modify Yaport with the teaching of Cai for integration of SMS message allowing the interchange of short text messages.

Regarding claim 96, *at least 80% of the designated receivers establish only a single unicast connection related to receiving the data file and transmit only a single request for data.*

Yaport discloses data distribution over the channels of one of the channel groups, e.g., 130, so as to transfer to clients of a particular group of multicast groups, [0031] for, a plurality of individual sessions occurs between individual clients and the server(s) consisting of unicast transmission: [0014], [0016], [0020].

Regarding claim 97, *the receivers transmit uplink transmissions regarding the multicast transmission only after they collected from the multicast channel all the data from the multicast channel used in reconstruction the multicast transmission.* Cai discloses [0028] uplink 135 that includes multiple communication channels, comprising [0031], one or more of multiple time slots in a same frequency bandwidth.

Therefore, it would have been obvious to a person of ordinary skill at the time the invention was made to implement Yaport with the teaching of Cai so that receivers can particularly select one or more multicast group

Regarding claim 98, Yaport does not explicitly discloses that *at least one of the receivers requests the one or more keys from an entity belonging to a different mobile network*,

Cai discloses (multiple softkeys such softkeys corresponding to keys on a conventional telephone keypad: [0030], [0036]). Therefore, it would have been obvious to a person of ordinary skill at the time the invention was made to implement Yaport with the teaching of Cai so that receivers

can particularly select one or more multicast group so as to provide a response to server indicating a desire of a user of the MS to subscribe to the event).

2. Claims 37, 41 and 42 rejected under 35 U.S.C. 103(a) as being unpatentable over Xu et al. (US 2006/0166653 A1), in view of Halter et al. (US 5,319,705) hereinafter Halter.

Regarding claim 37, Xu teaches *a method of receiving a data file provided in a multicast transmission*, (fig. 2 multicast data reception step 218), *comprising:*

tuning, by a mobile station, onto a multicast channel, (fig. 1 and [0038] the message to inform the MS of upcoming multicast session: note fig. 3 step 308. When this notification arrives, the mobile station changes to the multicast reception mode, (tune) where it listens to the MBMS data channel in order to receive the service data (step 308) transmitted on that channel, [0060], [0061]);

However Xu does not explicitly teach
receiving at least one encrypted packet which can be used in reconstructing the data file,
receiving at least one key required for decrypting the at least one packet after receiving a sufficient number of packets for reconstructing the data file.

Halter, in the same field teaches (fig. 3, col. 7 lines 63-68 and col. 8 lines 1-25) a subscriber (user processor 20) receiving an encrypted file from software distribution processor 10 via an encrypted file distribution medium 30. Subsequent to the receiving of the file, cryptographic keys are distributed from software distribution processor 10 to user processor 20 using a key distribution medium 31.

Therefore, it would have been obvious to a person of ordinary skill at the time the invention was made to implement Xu with the teaching of Halter so that a client (a subscriber) receives a decryption key independently delivered via the U.S. postal service or similar delivery service such as Federal Express or, via a telephone connection permitting the keys to be delivered orally to the user or automatically where the user is not required to write keys down on paper or to enter keys using a key-pad, and for the subscribed document for which only he or she is charged.

Regarding claim 41, Xu teaches the claimed invention except explicitly

requesting the at least one key after receiving a sufficient number of packets for reconstructing the data file and wherein receiving the at least one key is performed responsive to the requesting,

Halter teaches that, col. 9 lines 28-30: for each encrypted file transmitted via file distribution medium 30, there is an encrypted data key transmitted via key distribution medium 31. Furthermore, Halter teaches that, lines 33-37: a data key can be associated with one or more encrypted files.

Therefore, it would have been obvious to a person of ordinary skill at the time the invention was made to implement Xu with the teaching of Halter so that a subscriber could access software or a multimedia file consisting of several files or multimedia files.

Regarding claim 42, Xu teaches the claimed invention except explicitly

the requesting of the at least one key is performed responsive to a user instruction.

Halter teaches that, a request will be transmitted from the user processor to the software distribution processor. In response to that request, an encrypted file encryption key specific for the requested file, will be transmitted to the user processor: (abstract, and col.8 lines 26-34)

Therefore, it would have been obvious to a person of ordinary skill at the time the invention was made to implement Xu with the teaching of Halter, enabling subscribers to purchase multimedia program or software to access encrypted software or a multimedia files.

3. Claims 43, 45, 48, 51, 52, and 55 rejected under 35 U.S.C. 103(a) as being unpatentable over Xu in view of Halter and further in view of Dillon (6,728,878).

Regarding claims 43, 45, at least a portion of the data file is not encrypted and the user instruction is received after displaying the non-encrypted portion of the file to the user.

Xu and Halter teach receiving an encrypted data and the key, Xu in view of Halter does not explicitly teach that

a portion of the data file is not encrypted,

the non-encrypted portion of the file is received before any encrypted portion of the data file

Dillon in the same field discloses, fig. 1, communications link 140 includes an incoming link 142 carrying encrypted and non-encrypted data packets to the file broadcast receiver 112 in the receive computer 110; the non-encrypted data packets representing a catalogue. Furthermore, with reference to fig. 5, after receiving computer 10 receives the catalog (unencrypted), the user

sends a load request instruction as shown on the timing diagram. As shown, the catalog (unencrypted) is received before the reception of the document.

Therefore, it would have been obvious to a person of ordinary skill at the time the invention was made to implement Xu and Halter with Dillon for purchasing software or multimedia documents of their choice, by selecting from provider catalog.

Regarding claim 48, *the file includes a plurality of different portions requiring different keys for decryption and wherein the keys required for at least one portion are received after displaying at least one other portion*,

Although Xu and Halter teach receiving an encrypted data, Xu in view of Halter does not explicitly teach that the file includes a plurality of different portions requiring different keys for decryption and wherein the keys required for at least one portion are received after displaying at least one other portion.

Dillon teaches that, col. 7 lines 66-67 and col. 8 lines 1-: each document sent from broadcast center 150 is decrypted with a different key. If broadcast receiver 120 has received a correct key from security engine 130, it decrypts the packet and passes it to file broadcast receiver 112, where the packets of the received document are assembled in their correct order and stored in memory 404, e.g., on a hard disk.

Therefore, it would have been obvious to a person of ordinary skill at the time the invention was made to implement Xu and Halter with Dillon to purchase software or multimedia documents by order of selection.

Regarding claims 51, 52 and 55, *tuning onto the multicast channel is performed responsive to receiving a notification on an upcoming multicast transmission and responsive to a*

determination that the upcoming multicast transmission matches a subscription profile of the receiver,

Xu in view of Halter teach the claimed invention explicitly notification on an upcoming multicast transmission and multicast transmission matches a subscription profile of the receive, and the determination that the upcoming multicast transmission matches a subscription profile of the receiver comprises consulting a multicast subscription profile stored on the receiver, and

acknowledging receipt of the at least one key, in a manner which allows charging for the data file,

Dillon teaches a *notification* (announcement message from the broadcast center) that matches the receiver's interest stored in memory 404; the receiving computer decrypts the document and stores billing information, (fig. 5), about the received document and the billing information is transferred back to the broadcast center (acknowledgement) at a later time: in step 802 of FIG. 7(a), file broadcast receiver 112 receives the announcement message for a document and, in step 804, determines whether the document ID in the announcement message is contained in the list of documents of interest in memory 404. If so, file broadcast receiver 112 sends a load request to security engine 130 in step 806. The load request contains, e.g., the document ID from the announcement message, so that security engine 130 can send a corresponding key to broadcast receiver 120.

Therefore, it would have been obvious to a person of ordinary skill at the time the invention was made to implement Xu and Halter with Dillon to purchase software or multimedia documents by order of interest.

4. Claims 56 rejected under 35 U.S.C. 103(a) as being unpatentable over Xu, in view of Halter.

Regarding claim 56, Xu discloses *a method of multicasting a file, comprising:*

encrypting the file using one or more keys, ([0071]: a different signing key can be provided for each authorized mobile station (source authentication) or the same signing key can be shared by all authorized mobile stations (group authentication));

transmitting the encrypted file to a plurality of receivers in a multicast transmission, (note a message authentication code (MAC) is included in the transmitted message, therefore the need for a key distribution center (KDC) ensures that different signing key can be provided for each authorized mobile station to decrypt the encrypted file, [0069]-[0072]));

and providing at least one of the plurality of receivers with one or more decryption keys required for decrypting the transmitted encrypted file, after the file was transmitted, (the mobile station obtains a signing key (signing keys provided to the mobiles, from the KDC, for the purpose of decrypting the file, [0071]-[0074]). Note further that [0068], a Message Authentication Code (MAC) can be included in a message to provide authenticity without secrecy. The MAC is a value derived from the message by a key-dependent one-way function (such as the widely used HMAC). Only the party possessing the key can create or verify the MAC, thus showing that the key is provided after the message is received.

Although Xu teaches the message, Xu does not explicitly teach providing decryption keys after the file was transmitted.

Halter teaches (fig. 3, col. 7 lines 63-68 and col. 8 lines 1-25) a subscriber (user processor 20) receiving an encrypted file from software distribution processor 10 via an encrypted file distribution medium 30. Subsequent to the receiving of the file, cryptographic keys are distributed from software distribution processor 10 to user processor 20 using a key distribution medium 31.

Therefore, it would have been obvious to a person of ordinary skill at the time the invention was made to implement Xu with Halter so that a client (a subscriber) receives a decryption key independently delivered via the U.S. postal service or similar delivery service such as Federal Express or, via a telephone connection permitting the keys to be delivered orally to the user or automatically where the user is not required to write keys down on paper or to enter keys using a key-pad, and for the subscribed document for which only he or she is charged.

5. Claims 57-60 and 62 rejected under 35 U.S.C. 103(a) as being unpatentable over Xu, in view Halter and further in view of Majmundar et al. (US 200600225123 A1) hereinafter Majmundar.

Regarding claims 57 and 58 providing at least one of the receivers with at least one decryption key for the encrypted file, before transmitting the encrypted file,

Xu teaches the multicast transmission, However does not teach explicitly providing the decryption key before transmitting the encrypted file.

Halter teaches transmitting decryption key, however does not teach transmitting the key before the transmitting the encrypted file.

Majmundar, in the same field teaches transmitting encrypted data with the host transmitting the decryption key before or after the download: [[0030]: download data may be transmitted in encrypted form, and the host may transmit a decryption key to each terminal device that is supposed to receive the download data, perhaps ... at some other time before of after the download data.

With regards to claim 58, *receiving from the at least one receivers provided with the decryption keys before transmitting the encrypted file, acknowledgement messages,*

Majmundar further teaches [0030] that terminal devices may acknowledge receipt only after successfully decrypting the download data.

Therefore, it would have been obvious to a person of ordinary skill at the time the invention was made to implement Xu with Halter and further with Majmundar to provide all subscribers with decryption key independently delivered via the U.S. postal service or similar delivery service such as Federal Express or, via a telephone connection permitting the keys to be delivered orally to the user or automatically where the user is not required to write keys down on paper or to enter keys using a key-pad.

Regarding claim 59, Xu discloses *the acknowledgement messages are received at least 10 minutes after the transmission of the encrypted file is completed*, (note, [0051] discloses the moment for the response to the membership query is determined by setting a timer to a random value between zero and the maximum delay value. The idea here is to determine a member-specific response moment for each group member present in the cell. The response moment can be determined in many different ways. Instead of setting a timer to a random value, each mobile

station can, for example, calculate its response moment by means of an algorithm having at least one input specific to each mobile station)

Regarding claim 60, Xu discloses *the at least one of the receivers provided with the decryption keys before transmitting the encrypted file are selected at least partially responsive to previous behavior of the receivers*, (note fig. 3 step 308: *(responsive to the notification)*, when this notification arrives, the mobile station changes to the multicast reception mode, where it listens to the MBMS data channel in order to receive the service data (step 308) transmitted on that channel, [0060]; in addition, [0061], [0071], a different signing key, (decryption keys), can be provided for each authorized mobile station before the transmission of the encrypted file).

Regarding claim 62, *the at least one of the receivers provided with the decryption keys before transmitting the encrypted file are selected at least partially responsive to the number or percentage of acknowledgements provided by the receivers in a given period*,

Xu teaches the multicast transmission, However does not teach explicitly *to the number or percentage of acknowledgements provided by the receivers in a given period*,

Halter teaches transmitting decryption key, however does not teach *to the number or percentage of acknowledgements provided by the receivers in a given period*,

Majmundar teaches [0030] decryption key before or after the download and terminal devices may acknowledge receipt only after successfully decrypting the download data

Therefore, it would have been obvious to a person of ordinary skill at the time the invention was made to implement Xu with Halter and further with Majmundar to provide retransmission of data until successful decryption.

6. Claims 79, 82 rejected under 35 U.S.C. 103(a) as being unpatentable over Siren (2002/0006801 A1) in view Sasvari et al. (US 2004/0057376 A1) hereinafter Sasvari.

Regarding claim 79, Siren discloses *a method of transmitting multicast data in a cellular network, comprising:*

providing data for multicast transmission, ([0046], [0047], [0049], [0050]), to a plurality of base stations, having different bandwidth amounts for multicast transmission, at a same rate ([0035]: different bandwidth allocation to a plurality of base stations in a wireless network to assure group or multicast transmission over the wireless network),

Siren teaches the claimed invention except explicitly

dropping data by one or more of the base stations, as required, so that the data can be transmitted by each of the base stations on its respective allocated bandwidth for multicast transmission; and

transmitting the non-dropped data such that the data is transmitted by all the base stations substantially synchronously.

Sasvari discloses, [0011], [0023], in a communications system a finite bandwidth for the communication of traffic of a plurality of users; the communications system further comprises packet discard means for discarding (or dropping) packets, on an individual basis, in a pseudo-random fashion so that data transmitted by individual user to the system has a finite bandwidth for carrying the traffic;

Therefore, it would have been obvious to a person of ordinary skill at the time the invention was made to modify Siren with the teaching of Sasvari, to maintain the communication of traffic of a plurality of users in which the system has a finite bandwidth for carrying the traffic.

Regarding claim 82, Siren discloses transmitting supplementary data to receivers that request data they did not receive in the multicast transmission over point-to-point connections, ([0035] channels allocated to individual point-to-point user channels having a single recipient).

7. Claim 80 rejected under 35 U.S.C. 103(a) as being unpatentable over Siren in view of Sasvari and further in view of Okada (US 2002/0012327 A1).

Regarding claim 80, Siren discloses the base stations except explicitly:

the base stations use a small buffer, having room for at most five packets, for the provided multicast data,

Okada discloses, fig. 25, a base station 2501, as a general base station that includes a forwarding unit 2505 which has a buffer 2504 for forwarding to a multicast address. [0223]-[0225]: the buffer stores packets which is transmitted or forwarded to other locations. Therefore, it would have been obvious to a person of ordinary skill at the time the invention was made to modify Siren in view of Sasvari with the teaching of Okada to maintain flow performance based on the buffer state of the base station.

8. Claims 81 and 99 rejected under 35 U.S.C. 103(a) as being unpatentable Siren in view Sasvari and further and further in view of Tasman et al (2002/0080755 A1).

Regarding claims 81 and 99, Siren in combination of Sasvari teach the claimed invention except explicitly *providing the data, comprises providing data protected with a forward error correction code*,

Tasman, by disclosing that communication occurs from the server to the client without acknowledgement or confirmation, many telephone and computer communication channels presume that data is lost if no acknowledgement is received and retransmit the lost data, resulting in forward error correction. It would have been obvious to a person of ordinary skill at the time the invention was made to modify Siren with Tasman to incorporate forward error correction (FEC), for (FEC) software may reduce the number of retransmissions by alleviating some portion of the data packet loss.

9. Claim 93 rejected under 35 U.S.C. 103(a) as being unpatentable over Yaport in view of Cai and further in view of Tasman et al. (US 2002/0080755 A1).

Regarding claim 93, *transmitting the data file comprises transmitting the file protected with a forward error correction code*.

Yaport teaches the claimed invention except explicitly transmitting the file protected with a forward error correction code.

Tasman, [0048], in disclosing a mechanism for forwarding layer interfacing for networks, teaches encoding resulting in forward error correction (FEC). It would have been obvious to a person of ordinary skill at the time the invention was made to modify Yaport with Tasman to incorporate forward error correction (FEC), for (FEC) software may reduce the number of retransmissions by alleviating some portion of the data packet loss.

Allowable Subject Matter

10. Claims 66-73 are allowed.

Response to Arguments

Regarding claim 79

Applicant argues that “base stations having different bandwidth amounts for multicast transmission, dropping data so that the data can be transmitted by each of the base stations on its respective allocated bandwidth and transmitting the non-dropped data substantially synchronously” is not taught or suggested by Siren or Sasvari.

Examiner submits that *providing data for multicast transmission, ([0046], [0047], [0049], [0050]), to a plurality of base stations, having different bandwidth amounts for multicast transmission, at a same rate ([0035]; different bandwidth allocation to a plurality of base stations in a wireless network to assure group or multicast transmission over the wireless network),*

Siren teaches the claimed invention except explicitly

dropping data by one or more of the base stations, as required, so that the data can be transmitted by each of the base stations on its respective allocated bandwidth for multicast transmission; and

transmitting the non-dropped data such that the data is transmitted by all the base stations substantially synchronously.

Sasvari discloses, [0011], [0023], in a communications system a finite bandwidth for the communication of traffic of a plurality of users; the communications system further comprises packet discard means for discarding (or dropping) packets, on an individual basis, in a pseudo-random fashion so that data transmitted by individual user to the system has a finite bandwidth for carrying the traffic; As required, the drop affects each user's device separately so as to maintain the same transmission rate to achieve synchronous transmission.

Regarding claims 88 and 89,

Yaport discloses a data server, (figs. 6-9 server 100), comprising:

an input interface for receiving files to be multicast, ([0033]: as shown in this drawing, the system of the invention, as an existing system of FIG. 2, consists of a server 100, a multicast data transmission means such as a router 102, groups of clients 104-1, 104-2, 104-3 . . . 104-n with respective routers 106-1, 106-2, 106-3, . . . 106-n and the Internet 107 located between the routers of the groups of clients 104-1, 104-2, 104-3 . . . 104-n and the router 102);

an output interface for providing signals for transmission to receivers, ([0033]),

Yaport discloses a data transmission server 100 for multicast data transmission, (fig. 2), [0031], [0032], [0035], to recipients without acknowledgment, thus [0035], [0047]: the multicast distribution does not need confirmation: the server 100 and the method of multicast data transmission without client-server sessions and acknowledgement). In addition Yaport teaches that information is transmitted by portions, known as protocol data units, [0044]. In addition, [0046], the control protocol data units of all data segments will allow to restore the missing data (portion of the data or PDU such as PDUC1, PDUC2) lost during the transmission.

Yaport does not disclose an *input interface, an output interface, and a controller* as required by the claim.

Cai discloses a server 118 coupled to a RAN controller 114 via a support node receives a first set of MBMS data from an MBMS content provider, [0020],

a controller ([0040]: fig. 1, the Radio Access Network further comprises Radio Network Controllers (RNC) 114), adapted to generate a notification on an upcoming multicast transmission, (a multicast service notification is transmitted to mobile stations, thereby informing members of the multicast group of an upcoming multicast sessions), responsive to a received file, to provide the notification through the output interface for transmission and to provide the received file for transmission, (notifying the mobile stations of incoming multicast data), without receiving acknowledgements from the receivers on whether they received the notification, to determine receivers designated to receive the multicast transmission that did not receive at least a portion of the data file and to attempt to deliver the data file to the determined receivers.

Therefore, it would have been obvious to a person of ordinary skill at the time the invention was made to implement Yaport with the teaching of Cai so that clients can subscribe to a particular or selected multicast group at any time.

Conclusion

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Trost can be reached on (571)272-7872. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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